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Re-evaluation Note REV2017-03

Re-evaluation of Neonicotinoid Insecticides: Update on Pollinator Risk Assessments

(publié aussi en français)

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Background

The re-evaluations of clothianidin, imidacloprid and thiamethoxam were announced in 2012 (Re-evaluation Note REV2012-02, Re-evaluation of Neonicotinoid Insecticides). These re-evaluations were initiated to assess the potential risk to pollinators in light of international updates to the pollinator risk assessment framework, including information requirements. This Re-evaluation Note provides an update on these re-evaluations.

These re-evaluations consider all outdoor and agricultural uses of these neonicotinoid insecticides including soil and foliar applications, seed treatments, and greenhouse and tree injection uses. Both short and long term effects of various exposures are being considered to honey bees and native bees (such as bumblebees).

Health Canada's Pest Management Regulatory Agency (PMRA) and the United States Environmental Protection Agency (USEPA) are collaborating on these pollinator assessments, based on the jointly developed harmonized *Guidance for Assessing Pesticide Risks to Bees*. The Agencies have also been working closely with the California Department of Pesticide Regulation (CDPR).

Incident Reports

Starting in 2012, PMRA received a high number of reports of bee deaths at the time of planting of neonicotinoid treated corn and soy seed. In response, PMRA increased incident monitoring in corn and soybean growing areas where these incidents were reported. It was found that bees were being exposed to neonicotinoids through dust generated during the planting of treated seed. PMRA worked with stakeholders to change planting practices, greatly reducing the potential exposure to bees and other pollinators. Incidents related to honeybees have consistently been reduced by 70% to 80% since 2014. PMRA continues to monitor the situation in collaboration with the provinces.

In addition to this re-evaluation update, PMRA has also published an *Update on Canadian Bee Incident Reports 2012-2016* which contains a summary of pollinator incidents that have been reported to potentially be associated with pesticides. The report also includes incidents that have been reported for clothianidin, imidacloprid and thiamethoxam.

Imidacloprid Pollinator Assessment

On 18 January 2016, PMRA published a preliminary pollinator risk assessment for public consultation (Re-evaluation Note REV2016-05, *Re-evaluation of Imidacloprid – Preliminary Pollinator Assessment*). The preliminary assessment indicated that imidacloprid insecticides may present some potential risks to bees as a result of certain foliar and soil applications. However, current use restrictions minimize or reduce most of these potential risks. For seed treatments, a potential for risk to bees was not indicated.

During the 60 day consultation period on the preliminary pollinator assessment, PMRA received 11 comments. The major themes of the comments pertained to: establishing exposure estimates from pollen and nectar residue data, consideration of other routes of exposure, choice of toxicity end-points, consideration of toxicity literature across all three neonicotinoids, and assessment of non-*Apis* bees (such as bumblebees). In addition, we received a number of comments supporting PMRA's use of a science-based approach.

PMRA is currently updating the pollinator risk assessment for imidacloprid based on additional data from the registrant, additional literature that has recently been published, and the comments that were received during the public consultation period for the preliminary assessment.

The registrants have been conducting studies with honey bees and bumblebees placed in fields that have or have not been treated with imidacloprid. Additional data is expected to be submitted by the end of January 2017, and will be incorporated into the imidacloprid pollinator assessment and proposed decision which will be published by December 2017.

Clothianidin and Thiamethoxam Pollinator Assessments

PMRA is also conducting pollinator risk assessments for clothianidin and thiamethoxam based on extensive data from the registrants and published literature.

PMRA has reviewed most of the studies on-hand that were received from registrants or obtained from published literature. This includes studies on potential toxic effects to honey bees and native bees (such as bumblebees) as well as measures of exposure (in other words, levels of clothianidin or thiamethoxam in pollen and nectar). We have completed initial pollinator risk assessments based on the available information. Recently, additional data was received on thiamethoxam which will be reviewed and incorporated into the risk assessment.

Additional registrant data that measure levels of clothianidin or thiamethoxam in nectar and/or pollen of treated crops will be incorporated into our assessments. Data on clothiadinin are expected to be submitted by the end of February 2017. Data on thiamethoxam are expected to be submitted by April 2017.

The USEPA has recently published a preliminary pollinator assessment of clothianidin and thiamethoxam (https://www.epa.gov/pesticides/epa-releases-four-neonicotinoid-risk-assessments-public-comment).

PMRA intends to complete its pollinator risk assessments for clothianidin and thiamethoxam, and publish these for consultation by December 2017.

Anticipated Timelines for Completion of Pollinator Assessments

Pollinator risk assessments for clothianidin, imidacloprid and thiamethoxam, along with the proposed re-evaluation decisions, will be published by December 2017 for public consultation.

Activity	Year
Imidacloprid: Proposed decision	December 2017
Clothianidin, Thiamethoxam: Proposed decision	December 2017
Imidacloprid, Clothianidin, Thiamethoxam: Final decision	2018

Canada and the United States continue to collaborate on the pollinator risk assessments for the neonicotinoids.

Additional Information

Information regarding PMRA's actions to protect pollinators and additional resources can be found at www.healthcanada.gc.ca/pollinators.